Return to Sports after Joint Replacement
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Disclosure
Paid Consultant
Zimmer Biomet
Changing Demographic

20 Year Follow-Up

35 Year Follow-Up
The operation of the century: total hip replacement

Ian D Learmonth, Claire Young, Cecil Rorabeck
Lancet 2007; 370: 1508–19

THA can be cost saving or, at worst, cost-effective

Marginal Cost ($)

Age (y)

Women

Men

87%
of expectations completely fulfilled
<table>
<thead>
<tr>
<th>Expectation</th>
<th>Fulfillment</th>
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</thead>
<tbody>
<tr>
<td>Relieve daytime pain</td>
<td>87%</td>
</tr>
<tr>
<td>Relieve nighttime pain</td>
<td>91%</td>
</tr>
<tr>
<td>Improve ability to walk</td>
<td>91%</td>
</tr>
<tr>
<td>Improve ability to stand</td>
<td>90%</td>
</tr>
<tr>
<td>Get rid of limp</td>
<td>86%</td>
</tr>
<tr>
<td>Improve ability to climb stairs</td>
<td>87%</td>
</tr>
<tr>
<td>Improve ability to get in or out of a</td>
<td></td>
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<tr>
<td>bed, chair, or car</td>
<td>90%</td>
</tr>
<tr>
<td>Improve ability to perform daily activities around the home</td>
<td>86%</td>
</tr>
</tbody>
</table>
Predictors

Unmet expectations

Dunbar 2013

Expectation of Return to Athletic Activity

**Benefits of Exercise**

- Reduces anxiety, depression, and mortality
- Improves cardiovascular and bone health
- Aerobic activity three times a week for twenty minutes per session is associated with improved psychological and physiologic well-being.

Exercise provides health benefits for people of all ages and with all health conditions.

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**Can you...**

- 31 patients
- High-demand sports (tennis, jogging, skiing, racquetball, squash, basketball)
- 4x / week (3.5 hours)

- Good outcome, high satisfaction score at 4 years
- No conclusion about wisdom

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**Polyethylene Wear**

0.041 mm/year

107 patients
5-13 year follow up

32mm, 40mm heads
Young patients

0.022 mm/year

95 patients < 50 years
9-14 year follow up

28mm heads

TKA Wear With Sport

130 patients
12 year follow up

No decrease in durability of implant with sports activity
Tennis

58 competitive tennis players

<table>
<thead>
<tr>
<th></th>
<th>Hip Arthritis</th>
<th>Hip Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hip pain</td>
<td>100%</td>
<td>16%</td>
</tr>
<tr>
<td>NTRP rating</td>
<td>4.25</td>
<td>4.12</td>
</tr>
<tr>
<td>Speed</td>
<td></td>
<td>Less pain</td>
</tr>
<tr>
<td>Court mobility</td>
<td></td>
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</tr>
</tbody>
</table>


Tennis

• An eight-year follow-up period is too short to enable an evaluation of joint survivorship.

• Can joint replacements endure the joint forces associated with competitive tennis?
Golf

115 amateur golfers

100% returned to golf after hip replacement
87% reported no pain while playing


Survey

• 1995 survey of 28 surgeons & 15 fellows at Mayo

• Low impact recommended
  • Bowling, cycling, golf, sailing, water diving, swimming.

• High impact discouraged
  • Baseball, basketball, football, handball, hockey, karate, racquetball, running, soccer, water skiing.

Evolution
Hip Society
1999 - 2005


Today
British Hip Society
2017

Trend
Allow more athletic activity
Relax restrictions of sports activity after joint replacements

Outcomes, confidence, demand
Summary of Recommendations

“Orthopaedic surgeons have a duty to recommend activities that promote durability and survival of the reconstructed joint. Unfortunately, there is limited evidence-based information on which to base these recommendations. Going forward, adult reconstructive surgeons should study the activities of patients who have had a joint replacement in order to define which ones to recommend and which to restrict.

A national joint replacement registry may help in this endeavor.”

THA Pain VAS post-op

THA Satisfaction post-op

THA Again? Post-op

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TKA + UKA
Do it again?
Post-op

What amount of hip pain have you experienced the last week during the following activities?

- Going up or down stairs
- Walking on an uneven surface
- Rising from sitting
- Bending to floor/pick up an object
- Lying in bed (turning over, maintaining hip position)

The following questions concern your physical function. By this we mean your ability to move around and look after yourself. For each of the following activities please indicate the degree of difficulty you have experienced in the last week due to your hip.

PROMIS Global Health 10

- Health
- Physical health
- Mental health, including your mood and your ability to think
- Satisfaction with your social activities and relationships
- Carry out your usual social activities and roles
- Carry out your everyday physical activities
- Bothered by emotional problems
- Fatigue
- Pain
Satisfaction
How much did your surgery improve the quality of your life?
How satisfied are you with the results of your surgery?
If you could go back in time and decide to have surgery again, would you?
Yes  No  Maybe